Water and Wastewater BMPs

Forecasting and Analysis

- Georgia's State Water Management Plan requires water use forecasting by Regional Water Councils. Most of the CRC region is in the Coastal Regional Water Council area. Screven County is part of the Savannah - Upper Ogeechee Regional Water Council. Brantley and Charlton are part of the Suwannee - Satilla Regional Water Council. Wayne County is part of the Altamaha Regional Water Council. Water use forecast information is provided for domestic and commercial use, along with several water intensive industrial and commercial activities. Forecast information is available on the Georgia Water Planning Website.
- Impact analysis is a tool used to determine the effects of new development on the water and wastewater systems of a community. Results are used to determine a community's ability to meet the demand, identify required improvements and costs to serve the new development, and to support the assessment of impact fees for water and wastewater service to new developments. To conduct analysis of water and wastewater systems to support new development information required includes existing system capacity, development potential under existing regulatory conditions, proposed uses and proposed use changes maximum development potential, such as number of dwelling units or floor space depending upon proposed use. Water demand information based on use is necessary for determining potential demand. The Georgia State Water Management Plan and Regional Water Councils water forecasting web pages include water demand information.

Conservation

- Water conservation is recognized as a major source of water. Water conservation covers a range of activities including efficient and affective use of water to reducing water loss through maintenance and repair of water systems. The State of Georgia has a number of resources available to local governments, communities, the public, business and industry, providing information along with tips and tools for water conservation. These resources include the Georgia Water Conservation Implementation Plan and the Conserve Water Georgia information webpage.
- Water Sense is a water efficiency rating program of the US EPA Partnership for promoting products design for water conservation and water efficiency.

Community Systems

- A small utility system that provides water and or sewer to a limited area/development. Community systems may be either publicly or privately

owned. They may be utilized where an existing public water and or sewer system is not available to connect to and individual unit systems are not an option.

Utilities

- US EPA Source Protection EPA, State & Tribal Programs webpage includes information on drinking water protection programs including assessment and protection, wellhead protection, watershed-based programs, and other federal, state and non-federal programs. Wellhead Protection is a voluntary maintenance and protection program design to protect drinking water supply water well.
- Monitoring - There are a large number of private individual water wells and wastewater treatment systems within the region. Poorly operating and/or failing individual wastewater treatment systems (septic tanks) are recognized as a contributing source of pollution to surface waters and groundwater. Local monitoring programs can be utilized to identify poorly operating and failing systems for corrective measures and encourage proper maintenance by the individual.
- Service Delivery Area is an established area where a community or local government or entity will provide water and wastewater infrastructure to serve residences, businesses and industries. Service delivery areas can also be utilized to concentrate and time development that relies on provision of public water and wastewater.

Wastewater Management

- Wastewater Treatment Systems/wastewater disposal - US EPA Municipal Technologies webpage is a source of information on options and alternative for municipal wastewater management.
- Alternatives Wastewater Treatment Facilities are available to communities to the common treatment plants or ponds that discharge to waters of the state. Land treatment of wastewater is where wastewater is applied to land for treatment and or disposal. Constructed wetlands are another option for wastewater treatment. EPD has available the Guidelines for Constructed Wetlands for Municipal Wastewater Facilities. There is the subsurface disposal of treated wastewater. For guidance on subsurface treatment, EPD has produced Large Community Design Guidance document.
- EPA Septic (Onsite) Systems Webpage provides resources from design to maintenance of septic (onsite) systems and alternatives. There is also expanding availability of individual aerobic treatment systems as an alternative to septic systems. Aerobic systems typically provide higher quality treatment that could be discharge directly to surface waters in some instances. The National Sanitation Foundation has developed a certification system for individual aerobic wastewater treatment system. They do require regular maintenance and greater amount of energy/electricity to operate than septic systems.

Inspection and Maintenance

- Public and private community water and wastewater systems have inspection and maintenance requirements. These programs should be continue and even increased to monitor and maintain the greatest efficiencies of the systems. Private Wells and septic systems typically are not well monitored and maintained. Concern over private wells and septic systems include potential environmental impacts, contributing to aquifer withdrawal in areas of contamination or saltwater intrusion or insufficiently treated wastewater released into the environment. Programs to map and monitor septic systems.
- Inventory of the public and privately provided utilities with infrastructure; individual public and private wells and wastewater treatment facilities (septic tanks) is a necessary part of any inspection and maintenance program.

Regulation

- Wastewater discharge from treatment systems are regulated by EPD Water Protection Branch under the National Pollution Discharge Elimination System (NPDES) permit system.
- Individual wastewater treatment systems, primarily septic systems, are regulated by the County Boards of Health.
- Water Reuse or reclamation is another source of water for purposes that do not require higher quality water. There are two sources of treated wastewater being reused, also know as purple pipe due to requirement that the pipes are colored purple to differentiate from potable water pipes. One source is the use of treated wastewater for irrigation for golf courses, landscaping, agriculture and forestry. The second use is for industrial uses i.e. cooling water. Water reuse is regulated by EPD under the Land Disposal and Permit Requirements. EPA has produced the Guidelines Water Reclamation and Urban Water Reuse, addresses water reuse in public areas, including landscape irrigation, golf course irrigation, food crop irrigation, and industrial uses; and Slow-Rate Land Treatment, spray irrigation for wastewater treatment.
- Regionalization of water and wastewater systems is an option to share the high cost of distributing water for use and the collection and treatment of wastewater. Providing potable water from surface water sources requires treatment before distribution. Cost associate with expansion and maintenance of water and wastewater systems to serve scattered developments and rural populations can be better handled through regionalization. Management can be accomplished through the establishments of Joint Water and Sewerage Authorities.

Sustainability

- US EPA Office of Water Sustainable Water Infrastructure Program recommends a four pillar approach of better management of Water and Wastewater Utilities. The four pillars are:

1. Better Management of Water and Wastewater Utilities;
2. Rates that reflect the Full Cost Pricing of Services;
3. Efficient Water Use; and
4. Watershed Approaches to Protection.